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APPLICATION NO. FILING DATE		ILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,837 10/31/2003		10/31/2003	Cynthia H. Polsky	109263-132220	1277
25943	7590	04/10/2006		EXAMINER	
	•	IAMSON & WYA'	ROSE, KIESHA L		
	T CENTER FIFTH AVE	, SUITE 1900 ENUE	ART UNIT	PAPER NUMBER	
PORTLAN	VD, OR 9'	7204	2822		
				DATE MAILED: 04/10/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

,	Application No.	Applicant(s)
	10/698,837	POLSKY ET AL.
Office Action Summary	Examiner	Art Unit
·	Kiesha L. Rose	2822
The MAILING DATE of this communication ap	pears on the cover sheet wit	th the correspondence address
Period for Reply		·
A SHORTENED STATUTORY PERIOD FOR REPL WHICHEVER IS LONGER, FROM THE MAILING D  - Extensions of time may be available under the provisions of 37 CFR 1.1 after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period  - Failure to reply within the set or extended period for reply will, by statute Any reply received by the Office later than three months after the mailin earned patent term adjustment. See 37 CFR 1.704(b).	NATE OF THIS COMMUNIC 136(a). In no event, however, may a re- will apply and will expire SIX (6) MON <sup>*</sup> e, cause the application to become ABA	CATION.  sply be timely filed  IHS from the mailing date of this communication.  ANDONED (35 U.S.C. § 133).
Status		
1)⊠ Responsive to communication(s) filed on 13 J	anuary 2006.	
<u> </u>	s action is non-final.	•
3) Since this application is in condition for allowa	nce except for formal matte	ers, prosecution as to the merits is
closed in accordance with the practice under	Ex parte Quayle, 1935 C.D.	. 11, 453 O.G. 213.
Disposition of Claims		
4)⊠ Claim(s) <u>6-9,11,12 and 26-29</u> is/are pending in	n the application.	
4a) Of the above claim(s) is/are withdra		
5) Claim(s) is/are allowed.		
6) Claim(s) 6-9,11,12 and 26-29 is/are rejected.		
7) Claim(s) is/are objected to.		
8) Claim(s) are subject to restriction and/o	or election requirement.	
Application Papers		
9)⊠ The specification is objected to by the Examine	er.	•
10) The drawing(s) filed on is/are: a) acc		by the Examiner.
Applicant may not request that any objection to the	, ,	· ·
Replacement drawing sheet(s) including the correct		
11) ☐ The oath or declaration is objected to by the Ex	xaminer. Note the attached	Office Action or form PTO-152.
Priority under 35 U.S.C. § 119	•	
12) Acknowledgment is made of a claim for foreign	nriority under 35 H.S.C. &	119(a)-(d) or (f)
a) ☐ All b) ☐ Some * c) ☐ None of:	i priority under 55 6.6.6. §	113(a)-(d) 01 (1).
1. ☐ Certified copies of the priority document	ts have been received.	•
2. Certified copies of the priority document		oplication No.
3. Copies of the certified copies of the prior	•	•
application from the International Burea	•	·
* See the attached detailed Office action for a list	of the certified copies not i	received.
A440.a.h.m.o4/o.\		
Attachment(s)  1)  Notice of References Cited (PTO-892)	4) T Interview S	ummary (PTO-413)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s	)/Mail Date
<ol> <li>Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)</li> <li>Paper No(s)/Mail Date</li> </ol>	5)  Notice of In 6)  Other:	formal Patent Application (PTO-152)  —·

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### **DETAILED ACTION**

This Office Action is in response to the amendment filed 13 January 2006.

# Specification

The amendment filed 13 January 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: without a wire stem.

Applicant is required to cancel the new matter in the reply to this Office Action.

### Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 6-9 and 11-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 6-9 and 11-12 disclose without a wire stem this limitation is a negative limitation and was not in the original

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disclosure and is considered new matter. In addition, any negative limitation or exclusionary proviso must have basis in the original disclosure. In re Johnson, 558 F. 2d 1008, 1019, 194 USPQ 187, 196 (1977)

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-9 and 11-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 6-9 and 11-12 disclose without a wire stem, this limitation is a negative limitation and with the claimed invention being a semiconductor device "comprising" there is obviously many other elements or layers that could be in this device that are not claimed and therefore the invention is in terms of what is not there rather than pointing out the invention that is being claimed. Therefore a negative limitation that rendered the claim indefinite because it was an attempt to claim the invention by excluding what the inventors did not invent rather than distinctly and particularly pointing out what they did invent. In re Schechter, 205 F. 2d 185, 98 USPQ 144 (1953).

# Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

<sup>(</sup>b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 6-9, 12 and 26-29, as far as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Eldridge et al. (U.S. Publication 2002/0117330).

Eldridge discloses contact structures (Fig. 35) that contains a microelectronic die carrier substrate (3208) (Fig. 32) with bond pads, a microelectronic die substrate having an active and back side with an active side interconnect disposed on the active side, a backside interconnect disposed on the backside, coupled to and in substantial vertical alignment with the active side interconnect, a redistributed interconnect of the backside interconnect disposed on the backside (metal layers (3551-3556) coupled to and offset from the backside interconnect, an interconnect material (3440) (which could be formed of other interconnect material such as a solder ball) comprising a conductive material (solder) (electrically reflowable material or an adhesive (where an adhesive can be a silver based (Fig. 23 (2323)))) being coupled directly to the redistributed interconnect and an interconnect (3568) of the second microelectronic die. In regards to the interconnect material of the backside being connected to a second microelectronic device, as stated on Page 64, Paragraph 973 another microelectronic die can be connected to the first microelectronic die (3550).

First microelectronic substrate also comprises a metal layer (3551-3556) having a first and second side, a first dielectric layer (layer between metal layers) adjacent to the first side of the metal layer, a first aperture in the first dielectric layer and exposing a portion of the first side of the metal layer to define the active side interconnect, a second dielectric layer (3550) adjacent to the second side of the metal layer, a via extending

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from the backside interconnect through the second dielectric layer to the second side of the metal layer to electrically couple the backside interconnect to the metal layer

A conductive trace (metal layers on top side of 3550) coupled to and extending from the backside interconnect to a selected location, a third dielectric layer (layer between conductive traces) overlaying the conductive trace, an aperture in the third dielectric layer substantially at or near the selected location wherein the selected location for the redistributed interconnect (3568) corresponds to an interconnect on a second microelectronic die substrate and is not vertically aligned with the backside interconnect where the substrates can be microelectronic dies.

## Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eldridge. Eldridge discloses all the limitations except for the second substrate being coupled to the redistributed interconnect by a process of reflow bonding, thermal compression or ultrasonic bonding, a "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972): *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); In re Fessmann, 180 USPQ 324 (CCPA

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1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "product by, all of" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "product by process" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear. Even though product –by [-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted)."

### Response to Arguments

Applicant's arguments with respect to claims 6-9, 11-12 and 26-29 have been considered but are most in view of the new ground(s) of rejection.

#### Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 571-272-1844. The examiner can normally be reached on M-F 8:30-6:00 off 2nd Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zandra V. Smith pervisory Patent Examine

April 2000